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**Operation Manual**

V

## TABLE OF CONTENTS

# LOGIX™ SERIES INSTALLER QUICK-START SHEET

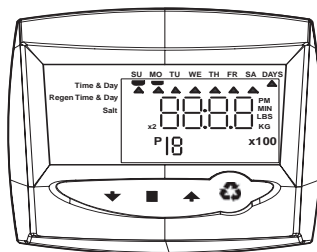
## Logix Series Controllers

Logix Series controllers are designed to operate on both the 255 and Performa valve body series.

**742 Controller -** The 742 controller is designed to operate on both the 255 and Performa valve body series. It features a digital display and a keypad for programming and monitoring the system.

**762 Controller -** The 762 controller is designed to operate on both the 255 and Performa valve body series. It features a digital display and a keypad for programming and monitoring the system.

The Logix Series will operate on both the 255 and Performa valve body series.



Logix Series controllers are designed to operate on both the 255 and Performa valve body series.

## Initial Power-up

### Initial Power Up - (CAMSHAFT proceeds to HOME position)

When the system is first powered up, the CAMSHAFT will proceed to the HOME position. The digital display will show the current time and day. The keypad can be used to program the system and monitor the status of the valve body.

### Step 1: Select Valve Type

[illegible]

NOTE: . . . / // . . . h a a . . . a . . . a  
h 1 0 h . . .

## Step 2: Program System Size

h. ... a h... .. a a  
h. ... a , ... ..  
... - ... ..  
h. ... h. ... h.  
h. h. a ... a a  
h. a - ... a " "  
h. ...  
... h ...  
... a , " ... "

### Step 3: Program Time of Day

h. "1.00". k. , h. a.  
h. h. h. a.  
" " a, "A" a.  
h. a a a a h. x  
h. h.

### Step 4: Set Day of Week

[illegible]

### Step 5: Set Regen Time

00 (A) . h a a a h ,  
h h , - a 00 a h.  
h a h x a

# quick start

### Step 6a: Set Calendar Override (762 Demand Control Only)

### Step 7: Set Salt Amount (Regenerant Amount)

### Step 8: Estimated Capacity

## Step 9: Enter Hardness (762 Demand Control Only)

Press **ENTER** to enter the hardness value. The display will show the hardness value in grains per gallon (gpg) or milligrams per liter (mg/L). Press **ENTER** again to confirm the value. The display will show the hardness value and the unit of measurement. Press **ENTER** again to exit the hardness entry screen.

For system start-up procedure, including: purging the mineral tank, refilling the regenerant tank, and drawing regenerant, see *Initial Startup Step-By-Step Instructions* on page 31.

## Manual Regeneration Procedures

### To Initiate a Manual Regeneration:

Press **ENTER** to enter the manual regeneration mode. The display will show the manual regeneration mode. Press **ENTER** again to confirm the mode. The display will show the manual regeneration mode and the unit of measurement. Press **ENTER** again to exit the manual regeneration mode.

### During a Regeneration:

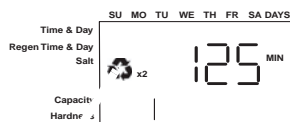
Press **ENTER** to enter the regeneration time. The display will show the regeneration time in minutes. Press **ENTER** again to confirm the time. The display will show the regeneration time and the unit of measurement. Press **ENTER** again to exit the regeneration time entry screen.

### To Advance Regeneration Cycles:

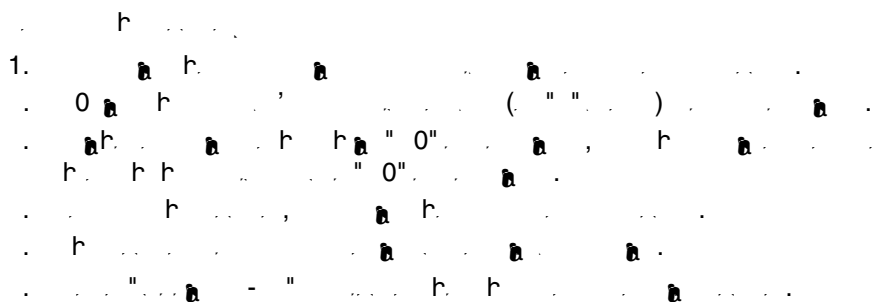
Press **ENTER** to enter the regeneration cycles. The display will show the regeneration cycles. Press **ENTER** again to confirm the cycles. The display will show the regeneration cycles and the unit of measurement. Press **ENTER** again to exit the regeneration cycles entry screen.

### Regeneration Cycles:

- 1 - **ENTER** to enter the regeneration cycles. The display will show the regeneration cycles. Press **ENTER** again to confirm the cycles. The display will show the regeneration cycles and the unit of measurement. Press **ENTER** again to exit the regeneration cycles entry screen.
- 2 - **ENTER** to enter the regeneration cycles. The display will show the regeneration cycles. Press **ENTER** again to confirm the cycles. The display will show the regeneration cycles and the unit of measurement. Press **ENTER** again to exit the regeneration cycles entry screen.
- 3 - **ENTER** to enter the regeneration cycles. The display will show the regeneration cycles. Press **ENTER** again to confirm the cycles. The display will show the regeneration cycles and the unit of measurement. Press **ENTER** again to exit the regeneration cycles entry screen.
- 4 - **ENTER** to enter the regeneration cycles. The display will show the regeneration cycles. Press **ENTER** again to confirm the cycles. The display will show the regeneration cycles and the unit of measurement. Press **ENTER** again to exit the regeneration cycles entry screen.
- 5 - **ENTER** to enter the regeneration cycles. The display will show the regeneration cycles. Press **ENTER** again to confirm the cycles. The display will show the regeneration cycles and the unit of measurement. Press **ENTER** again to exit the regeneration cycles entry screen.
- 6 - **ENTER** to enter the regeneration cycles. The display will show the regeneration cycles. Press **ENTER** again to confirm the cycles. The display will show the regeneration cycles and the unit of measurement. Press **ENTER** again to exit the regeneration cycles entry screen.
- 7 - **ENTER** to enter the regeneration cycles. The display will show the regeneration cycles. Press **ENTER** again to confirm the cycles. The display will show the regeneration cycles and the unit of measurement. Press **ENTER** again to exit the regeneration cycles entry screen.
- 8 - **ENTER** to enter the regeneration cycles. The display will show the regeneration cycles. Press **ENTER** again to confirm the cycles. The display will show the regeneration cycles and the unit of measurement. Press **ENTER** again to exit the regeneration cycles entry screen.



# quick start



4





# INSTALLATION

## Warnings And Safety Information



Read and understand the instructions before installation. Failure to follow the instructions may result in property damage, personal injury or death. The manufacturer is not responsible for any damage or injury caused by the use of this product.

Do not use the product in areas where it may be exposed to high temperatures, such as near a furnace or boiler. Do not use the product in areas where it may be exposed to high humidity or moisture. Do not use the product in areas where it may be exposed to corrosive materials, such as acids or alkalis. Do not use the product in areas where it may be exposed to high pressure or vibration.

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Do not use the product in areas where it may be exposed to high temperatures, such as near a furnace or boiler. Do not use the product in areas where it may be exposed to high humidity or moisture. Do not use the product in areas where it may be exposed to corrosive materials, such as acids or alkalis. Do not use the product in areas where it may be exposed to high pressure or vibration.

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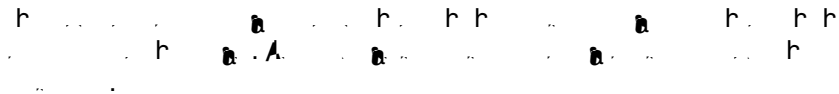
Do not use the product in areas where it may be exposed to high temperatures, such as near a furnace or boiler. Do not use the product in areas where it may be exposed to high humidity or moisture. Do not use the product in areas where it may be exposed to corrosive materials, such as acids or alkalis. Do not use the product in areas where it may be exposed to high pressure or vibration.

\* See the instructions for the correct use of the product.

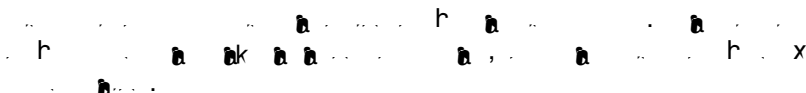
## General

1. 在 0° 到 180° 范围内， $\sin \theta$  的取值范围是 [0, 1]。  
 2. 在 0° 到 90° 范围内， $\cos \theta$  的取值范围是 [0, 1]。  
 3. 在 0° 到 180° 范围内， $\tan \theta$  的取值范围是 (-∞, +∞)。  
 4. 在 0° 到 180° 范围内， $\cot \theta$  的取值范围是 (-∞, +∞)。

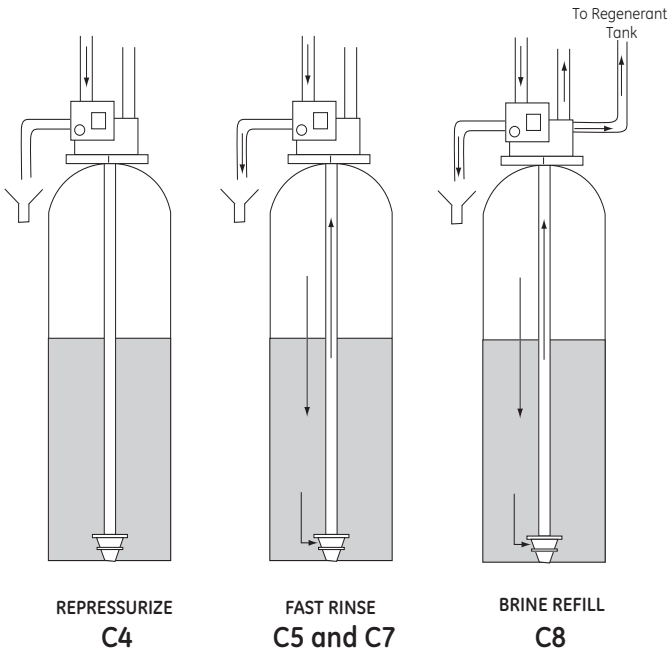
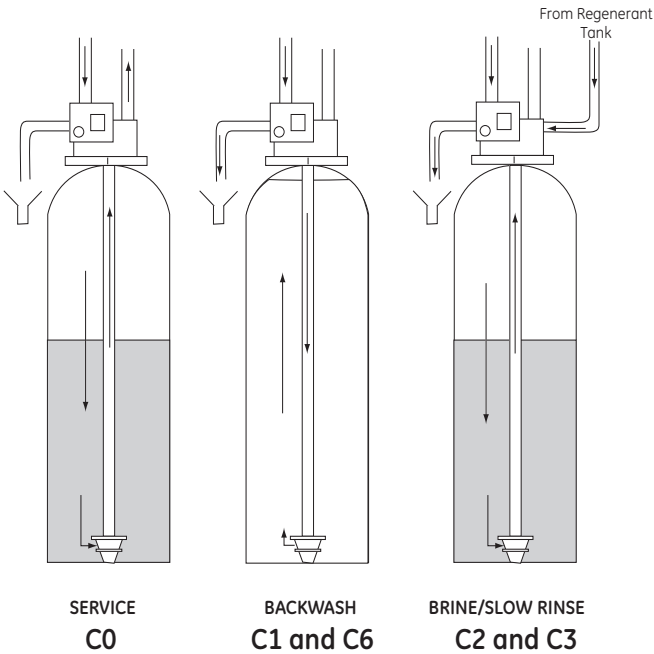
5. Fast Rinse (Downflow) — Cycles C5, C7:



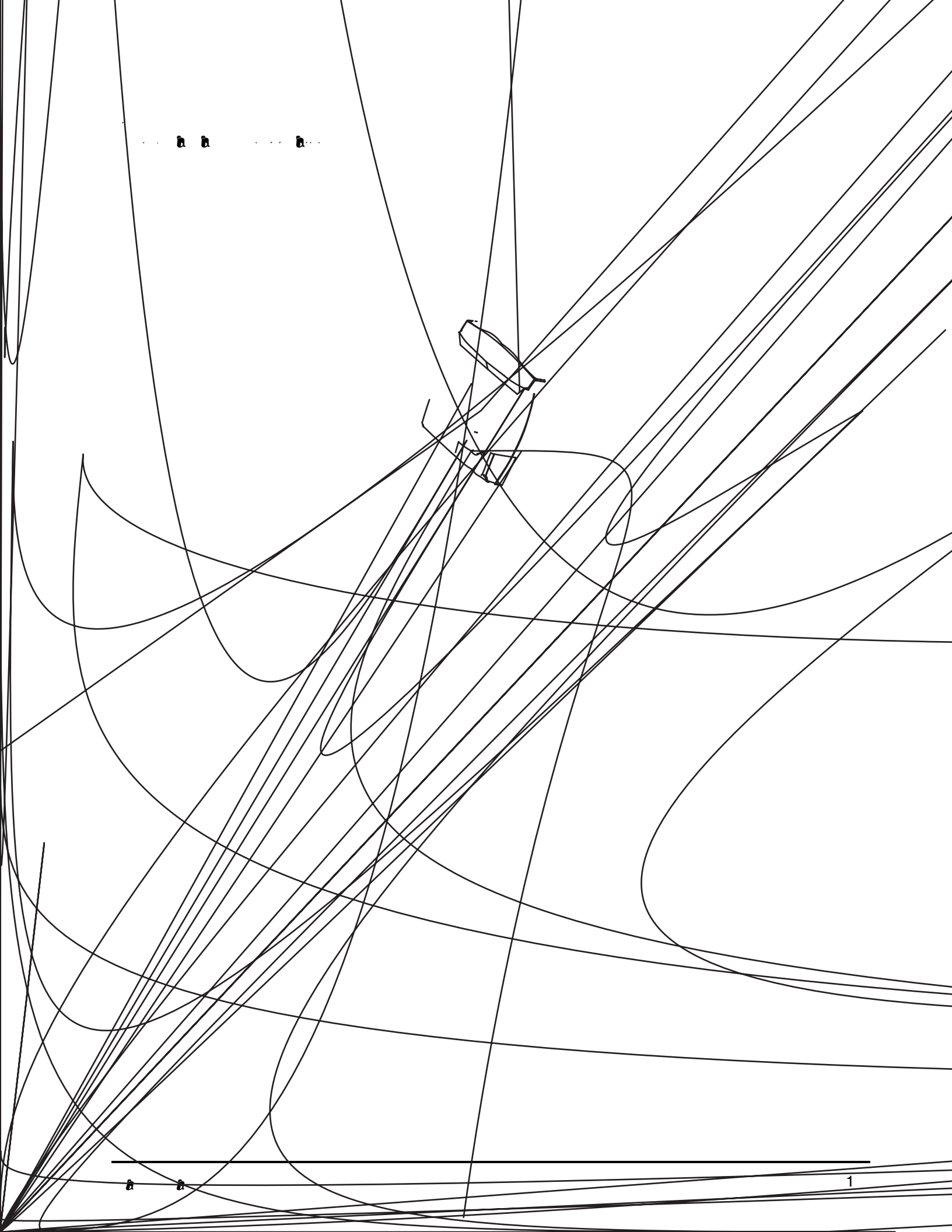
6. Brine Refill — Cycle C8:

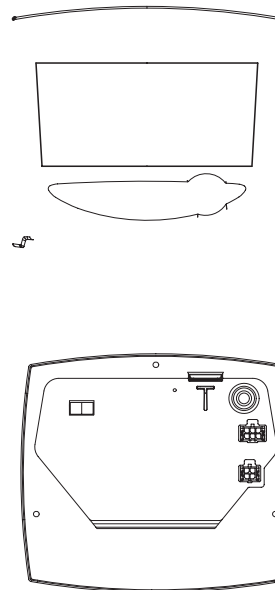


1









## Location Selection

The location of the device should be selected based on the following criteria:

- The device should be placed in a location where it can be easily accessed by the user.
- The device should be placed in a location where it is protected from physical damage.
- The device should be placed in a location where it is protected from environmental factors such as dust, moisture, and extreme temperatures.
- The device should be placed in a location where it is protected from electromagnetic interference (EMI).
- The device should be placed in a location where it is protected from theft.
- The device should be placed in a location where it is protected from fire.
- The device should be placed in a location where it is protected from flooding.
- The device should be placed in a location where it is protected from other hazards.

The following table provides a summary of the location selection criteria:

Criteria	Location Selection
Accessibility	Place the device in a location where it can be easily accessed by the user.
Physical Protection	Place the device in a location where it is protected from physical damage.
Environmental Protection	Place the device in a location where it is protected from environmental factors such as dust, moisture, and extreme temperatures.
EMI Protection	Place the device in a location where it is protected from electromagnetic interference (EMI).
Theft Protection	Place the device in a location where it is protected from theft.
Fire Protection	Place the device in a location where it is protected from fire.
Flooding Protection	Place the device in a location where it is protected from flooding.
Other Hazards	Place the device in a location where it is protected from other hazards.

## Outdoor Locations

The following table provides a summary of the outdoor location selection criteria:

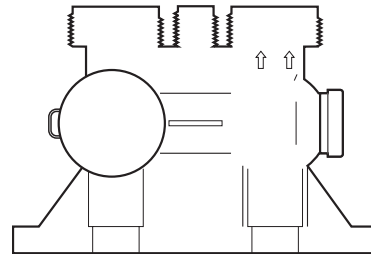
Criteria	Outdoor Location Selection
Accessibility	Place the device in a location where it can be easily accessed by the user.
Physical Protection	Place the device in a location where it is protected from physical damage.
Environmental Protection	Place the device in a location where it is protected from environmental factors such as dust, moisture, and extreme temperatures.
EMI Protection	Place the device in a location where it is protected from electromagnetic interference (EMI).
Theft Protection	Place the device in a location where it is protected from theft.
Fire Protection	Place the device in a location where it is protected from fire.
Flooding Protection	Place the device in a location where it is protected from flooding.
Other Hazards	Place the device in a location where it is protected from other hazards.

... h a a 700 ... a a A ...  
 a a h ... a ...  
 h ... h a x ... h ... a  
 ... x a ... a h a ...  
 ... , a a ... k ...  
 ... h h a a ...  
 ... h. h ... h a a ... a  
 ... a ...

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Normal Operation

In Bypass



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100





**WARNING:** Do not use the unit in areas where the ambient temperature is below 32°F (0°C). The unit is designed for use in areas where the ambient temperature is above 32°F (0°C). If the unit is used in areas where the ambient temperature is below 32°F (0°C), the unit may not operate properly and could be damaged.



**WARNING:** Do not use the unit in areas where the ambient temperature is below 32°F (0°C). The unit is designed for use in areas where the ambient temperature is above 32°F (0°C). If the unit is used in areas where the ambient temperature is below 32°F (0°C), the unit may not operate properly and could be damaged.



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## Drain Line Connection



**NOTE:** The drain line must be connected to the drain port on the back of the unit. The drain line must be connected to the drain port on the back of the unit. The drain line must be connected to the drain port on the back of the unit.

1. The drain line must be connected to the drain port on the back of the unit. The drain line must be connected to the drain port on the back of the unit. The drain line must be connected to the drain port on the back of the unit.

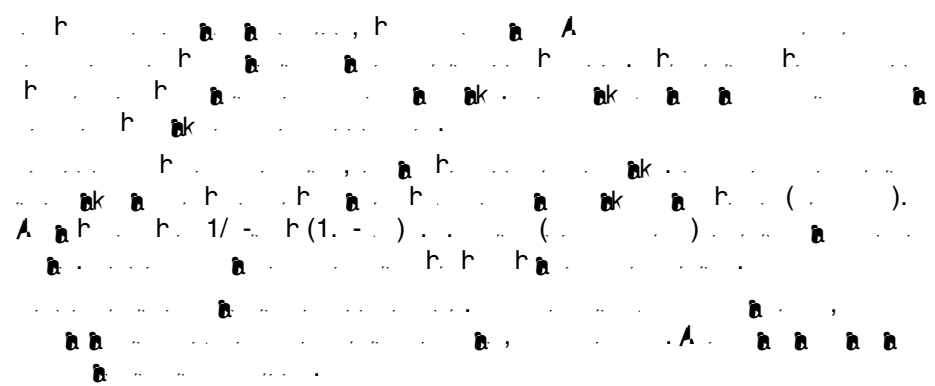
The drain line must be connected to the drain port on the back of the unit. The drain line must be connected to the drain port on the back of the unit. The drain line must be connected to the drain port on the back of the unit.



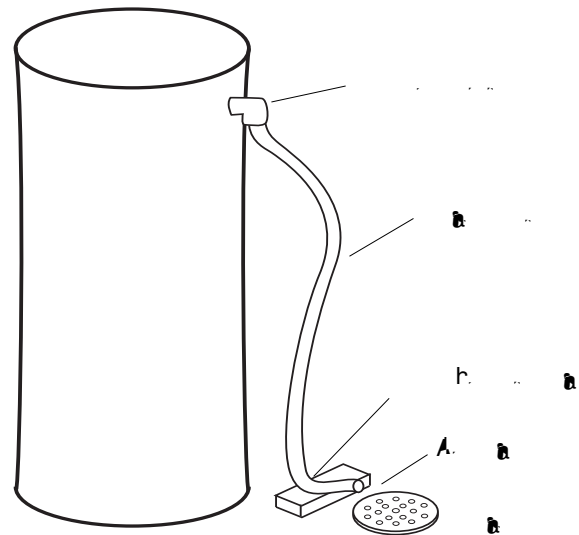




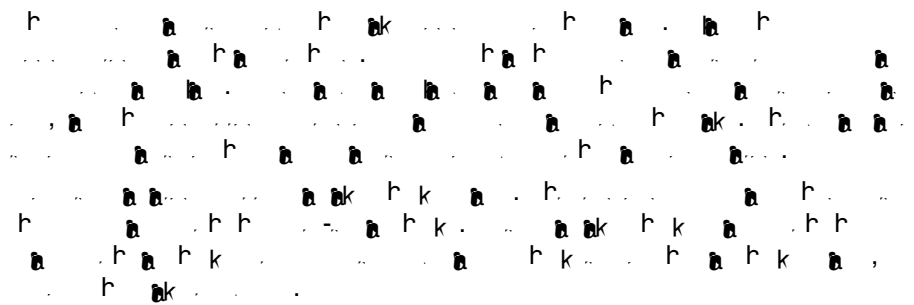
## **Overflow Line Connection** (not used with 3-cycle filter system)



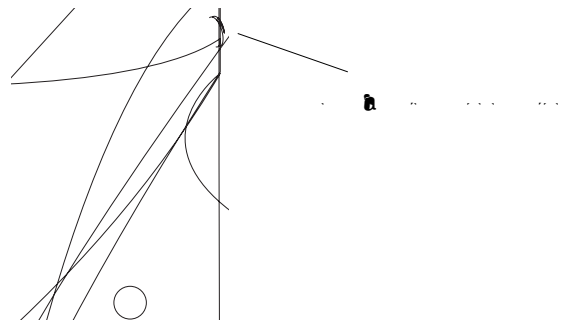
## 



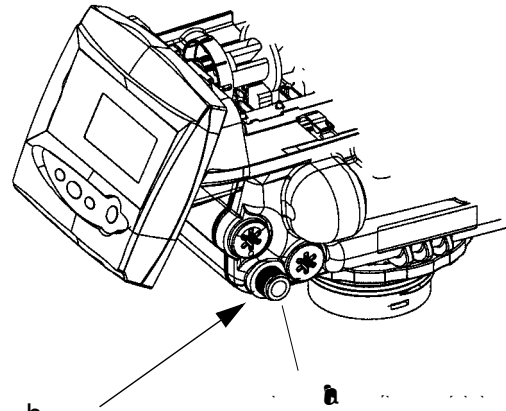
## 



10  
A. h k . a



1. Remove the front panel from the unit.



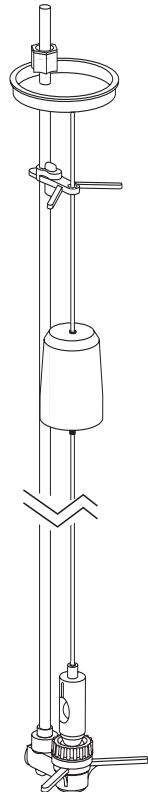
NOTE: The front panel is attached to the unit by two screws. Remove these screws before attempting to remove the front panel.



NOTE: The front panel is attached to the unit by two screws. Remove these screws before attempting to remove the front panel.

1. Remove the front panel from the unit.

1. Connect the power cable to the power source (AC adapter or battery pack) and the power switch to the power source.



\* The power cable and the power switch are not included in the standard configuration.

Electrical Connection

CAUTION: Do not connect the power cable to the power source if the power switch is not in the OFF position. Otherwise, the power source may be damaged.

1. Connect the power cable to the power source (AC adapter or battery pack) and the power switch to the power source.

AC Adapter	Input Voltage	Application	Part Number
AC Adapter (1000-11)	100-0	AC Adapter (1000-11)	1000 11
AC Adapter (1000-11)	100-0	AC Adapter (1000-11)	1
AC Adapter (1000-11)	100-0	AC Adapter (1000-11)	1

100 VAC, 120 VAC and 230 VAC AC Adapters:

For 100 VAC, 120 VAC and 230 VAC AC Adapters:



NOTE: For 100 VAC, 120 VAC and 230 VAC AC Adapters:  
The 100 VAC, 120 VAC and 230 VAC AC Adapters are not compatible with the 100 VAC, 120 VAC and 230 VAC AC Adapters. The 100 VAC, 120 VAC and 230 VAC AC Adapters are not compatible with the 100 VAC, 120 VAC and 230 VAC AC Adapters.

For 100 VAC, 120 VAC and 230 VAC AC Adapters:  
The 100 VAC, 120 VAC and 230 VAC AC Adapters are not compatible with the 100 VAC, 120 VAC and 230 VAC AC Adapters. The 100 VAC, 120 VAC and 230 VAC AC Adapters are not compatible with the 100 VAC, 120 VAC and 230 VAC AC Adapters.

Controller Location

For 100 VAC, 120 VAC and 230 VAC AC Adapters:  
The 100 VAC, 120 VAC and 230 VAC AC Adapters are not compatible with the 100 VAC, 120 VAC and 230 VAC AC Adapters. The 100 VAC, 120 VAC and 230 VAC AC Adapters are not compatible with the 100 VAC, 120 VAC and 230 VAC AC Adapters.

Valve Camshaft

For 100 VAC, 120 VAC and 230 VAC AC Adapters:  
The 100 VAC, 120 VAC and 230 VAC AC Adapters are not compatible with the 100 VAC, 120 VAC and 230 VAC AC Adapters. The 100 VAC, 120 VAC and 230 VAC AC Adapters are not compatible with the 100 VAC, 120 VAC and 230 VAC AC Adapters.

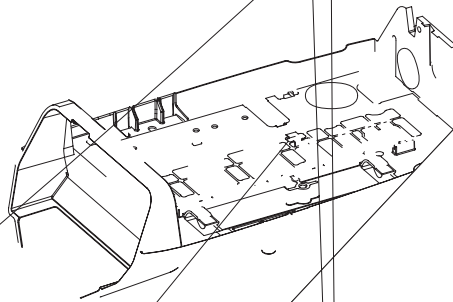
1  
The 100 VAC, 120 VAC and 230 VAC AC Adapters are not compatible with the 100 VAC, 120 VAC and 230 VAC AC Adapters.

For 100 VAC, 120 VAC and 230 VAC AC Adapters:  
The 100 VAC, 120 VAC and 230 VAC AC Adapters are not compatible with the 100 VAC, 120 VAC and 230 VAC AC Adapters. The 100 VAC, 120 VAC and 230 VAC AC Adapters are not compatible with the 100 VAC, 120 VAC and 230 VAC AC Adapters.

0. a a - a a  
 1. a h a ( )  
 . a a ( )  
 . a ( a )  
 a 1  
 a h ( )  
 a ( )  
 a ( )

## Valve Disc Operation

1 - a



1 - a a ( , , / )

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# SYSTEM DISINFECTION

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## Disinfection Of Water Conditioners

When a water conditioner is used, the water conditioner must be disinfected before use. The water conditioner must be disinfected by adding 1.0 gallon of 5.25% sodium hypochlorite to the water conditioner. The water conditioner must be disinfected for 12 hours before use.

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### Sodium or Calcium Hypochlorite

#### Application

The water conditioner must be disinfected by adding 1.0 gallon of 5.25% sodium hypochlorite to the water conditioner. The water conditioner must be disinfected for 12 hours before use.

### 5.25% Sodium Hypochlorite

The water conditioner must be disinfected by adding 1.0 gallon of 5.25% sodium hypochlorite to the water conditioner. The water conditioner must be disinfected for 12 hours before use.

#### 1. Preparation

A. The water conditioner must be disinfected by adding 1.0 gallon of 5.25% sodium hypochlorite to the water conditioner. The water conditioner must be disinfected for 12 hours before use.

#### 2. Disinfection

A. The water conditioner must be disinfected by adding 1.0 gallon of 5.25% sodium hypochlorite to the water conditioner. The water conditioner must be disinfected for 12 hours before use.

\* The water conditioner must be disinfected by adding 1.0 gallon of 5.25% sodium hypochlorite to the water conditioner. The water conditioner must be disinfected for 12 hours before use.



## Calcium Hypochlorite

Calcium hypochlorite, 70% available chlorine, is a white powder that is used as a disinfectant. It is used to disinfect water, swimming pools, and wastewater. It is also used to disinfect surfaces and equipment.

### 1. Disinfection

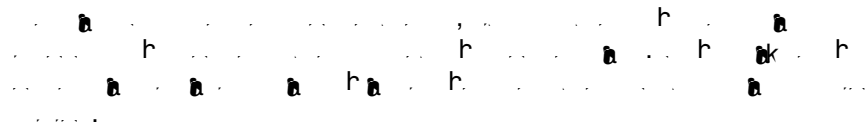
A. Disinfection of water (a maximum of 0.1 mg/L of available chlorine)

Disinfection of water is achieved by adding a certain amount of calcium hypochlorite to the water.

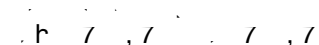
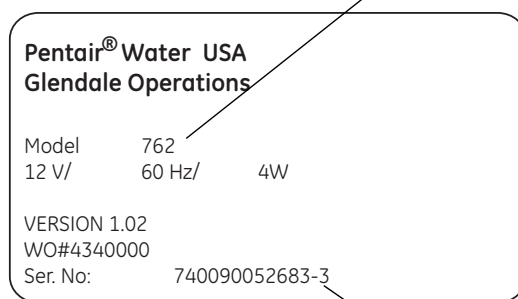
A. The amount of calcium hypochlorite to be added depends on the concentration of the disinfectant and the volume of water to be disinfected. The amount of calcium hypochlorite to be added can be calculated using the following formula:

Amount of calcium hypochlorite (mg) = Volume of water (L) × Concentration of disinfectant (mg/L)

## DETERMINING IF YOU HAVE A 742 OR 762 CONTROL



1


































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# GENERAL 700 SERIES INSTRUCTIONS

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## Display Icons 700 Controller

17

1.                                 





## Regeneration Modes

h 700

### To Initiate a Manual Regeneration:

x (00A).

A h ( )

a h.

A

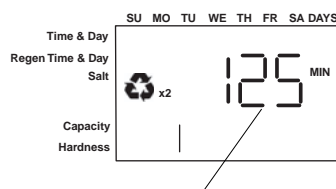
A h h "x"

h

h "x"

### During a Regeneration:

A " #" . . . h . . . . .  
 . . . h . . . . .  
 . . . h . . . . .



### To Advance Regeneration Cycles:

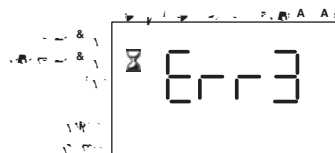
a h. - h. ...  
 a h. ... A h. ...  
 h. h. x ...  
 h. h. h. h. h. ...  
 h. h. ...  
 h. h. ...  
 h. h. ...  
 h. h. ...  
 h. h. ...

### Regeneration Cycles:

1.  $\partial_k \partial^k$   
.....  $\partial / \partial x^0$  (.....)  
..... (.....)  
.....  $\partial$  (.....  $\partial_k$ )  
..... 1  
.....  $\partial_k \partial^k$  (.....)  
7.  $\partial$  ..... (.....)  
.....  $\partial$  ..... (.....)

## 742/762 Series Initial Power-Up

### Initial Power Up – (Camshaft proceeds to HOME position)



A ..... - , h ..... a ..... h ..... (. ..).

a ..... a ..... 1 ..... .

..... h ..... h ..... .

..... h ..... , ..... h ..... h ..... h ..... h ..... h ..... .

a ..... , ..... a ..... .

NOTE: ctuASAr1 SAi158 8.mPaASAr1A58 8.sc0 1( um)-14.54(f) 1 e(c5( C1)-2n81

## Initial Start-up Step-By-Step Instructions

A h h , h h h  
h r 100 - A h

### Step 1: Select Valve Type

[illegible]

[illegible]

NOTE: If the subject is a minor, the parent or guardian must be present and sign the consent form. If the subject is a minor, the parent or guardian must be present and sign the consent form. If the subject is a minor, the parent or guardian must be present and sign the consent form.



h. 1.00. . . . . h. . . . .  
h. . . . . h. . . . .  
h. . . . . A . . . . .  
h. . . . . h. . . . .  
h. . . . . h. . . . .

[illegible]

**After steps 1-4, the controller will operate most systems. Proceed to step 5 if further adjustments to your system's programming is needed.**



00 (A). h a a a a h ,  
h  
h a h , a 00 a h.  
h a a a h  
h a a a h x a a



### Step 6: Set Days to Regenerate (742 Time-Clock Control Only)

[illegible]

17- 11 11 11 11

Salt lbs/cu f	Exchange Capacity grains/cu ft	Salt grams/ liter	Exchange Capacity grams/liter
		1 100	0 .
		1 0/	0 0.0
		11 0	/0 .
		0	0 .
		/ 0	0 1.
		/1 /100 .	
		/ 110	/./
		10	001 1 0 0.
		11 1 1 0 .	
		1	01 0 .
		1	/ 1 0 .
		1	01/0/0.
		1	0 00/ .
		1	0 / 0/ .
		1/	0 0 .
		1	/ 0 .1

To Convert Capacity in	Into Capacity in	Multiply (by)
k	M	1000
M	G	1000
G	T	1000
T	P	1000
P	E	1000
E	Z	1000
Z	Y	1000
Y	X	1000
X	W	1000
W	V	1000
V	U	1000
U	T	1000
T	S	1000
S	R	1000
R	Q	1000
Q	P	1000
P	O	1000
O	N	1000
N	M	1000
M	L	1000
L	K	1000
K	J	1000
J	I	1000
I	H	1000
H	G	1000
G	F	1000
F	E	1000
E	D	1000
D	C	1000
C	B	1000
B	A	1000
A	Z	1000
Z	Y	1000
Y	X	1000
X	W	1000
W	V	1000
V	U	1000
U	T	1000
T	S	1000
S	R	1000
R	Q	1000
Q	P	1000
P	O	1000
O	N	1000
N	M	1000
M	L	1000
L	K	1000
K	J	1000
J	I	1000
I	H	1000
H	G	1000
G	F	1000
F	E	1000
E	D	1000
D	C	1000
C	B	1000
B	A	1000
A	Z	1000
Z	Y	1000
Y	X	1000
X	W	1000
W	V	1000
V	U	1000
U	T	1000
T	S	1000
S	R	1000
R	Q	1000
Q	P	1000
P	O	1000
O	N	1000
N	M	1000
M	L	1000
L	K	1000
K	J	1000
J	I	1000
I	H	1000
H	G	1000
G	F	1000
F	E	1000
E	D	1000
D	C	1000
C	B	1000
B	A	1000
A	Z	1000
Z	Y	1000
Y	X	1000
X	W	1000
W	V	1000
V	U	1000
U	T	1000
T	S	1000
S	R	1000
R	Q	1000
Q	P	1000
P	O	1000
O	N	1000
N	M	1000
M	L	1000
L	K	1000
K	J	1000
J	I	1000
I	H	1000
H	G	1000
G	F	1000
F	E	1000
E	D	1000
D	C	1000
C	B	1000
B	A	1000
A	Z	1000
Z	Y	1000
Y	X	1000
X	W	1000
W	V	1000
V	U	1000
U	T	1000
T	S	1000
S	R	1000
R	Q	1000
Q	P	1000
P	O	1000
O	N	1000
N	M	1000
M	L	1000
L	K	1000
K	J	1000
J	I	1000
I	H	1000
H	G	1000
G	F	1000
F	E	1000
E	D	1000
D	C	1000
C	B	1000
B	A	1000
A	Z	1000
Z	Y	1000
Y	X	1000

**Filter backwash time (filter mode only)**

hence, the  $\mathcal{H}_\infty$  norm of the system is bounded by  $\sqrt{2}$ . The  $\mathcal{H}_\infty$  norm of the system is also bounded by  $\sqrt{2}$  if the system is stable and the input is bounded. The  $\mathcal{H}_\infty$  norm of the system is also bounded by  $\sqrt{2}$  if the system is stable and the input is bounded.

Step 8: Estimated Capacity

... a a ... a ... k ... a ... h a ...  
... a ... a ... a ...  
a ... h ... , a a ...  
...  
h a a ... a ... a ... a ...  
... a a ...

# PLACING CONDITIONER INTO OPERATION (turning on the water)

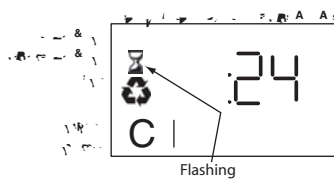
## Conditioner and FA Filter Start-Up

After the water is turned on, the water will flow through the filter and the conditioner. The water will then flow through the filter and the conditioner. The water will then flow through the filter and the conditioner.



**WARNING:** The water will flow through the filter and the conditioner. The water will then flow through the filter and the conditioner. The water will then flow through the filter and the conditioner.

1. The water will flow through the filter and the conditioner. The water will then flow through the filter and the conditioner. The water will then flow through the filter and the conditioner.



The water will flow through the filter and the conditioner. The water will then flow through the filter and the conditioner. The water will then flow through the filter and the conditioner.



**WARNING:** The water will flow through the filter and the conditioner. The water will then flow through the filter and the conditioner. The water will then flow through the filter and the conditioner.

The water will flow through the filter and the conditioner. The water will then flow through the filter and the conditioner. The water will then flow through the filter and the conditioner.

NOTE:  $\frac{1}{2}$  inch = 12.5 mm

[illegible]



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# PROGRAMMING THE 700 FOR 5-CYCLE FILTER APPLICATIONS

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## Manganese Greensand Systems

### Sizing FA Filters

1. Press **ENTER** to enter the filter area.

#### Backwash Controller

2. Press **ENTER** to enter the backwash controller.

#### Injector

3. Press **ENTER** to enter the injector.

#### Refill Controller

4. Press **ENTER** to enter the refill controller.

### Initial Resin Volume Setting

1. Press **ENTER** to enter the initial resin volume setting.

### "Salt" Setting for $\text{KMnO}_3$ Regenerant

1. Press **ENTER** to enter the "salt" setting for  $\text{KMnO}_3$  regenerant.

### Days Between Regeneration Setting (742 FA)

1. Press **ENTER** to enter the days between regeneration setting (742 FA).

x 100,000,000 / 100,000,000 (100,000,000 x 100,000,000)  
 100,000,000 / 100,000,000 (100,000,000 / 100,000,000)  
 (100,000,000) 100,000,000 (100,000,000) 100,000,000  
 100,000,000 (100,000,000), 100,000,000 (100,000,000)  
 100,000,000 100,000,000 100,000,000 100,000,000  
 100,000,000 100,000,000 100,000,000 100,000,000  
 x 100,000,000  
 x 100,000,000 100,000,000 100,000,000  
 100,000,000 x 100,000,000 / 100,000,000  
 100,000,000 100,000,000 ÷ 100,000,000 / 100,000,000

## Volume/Demand Regeneration Setting

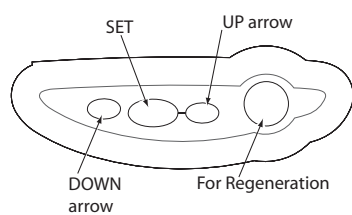
1. 100,000,000 100,000,000 100,000,000  
 100,000,000 100,000,000  
 100,000,000 100,000,000 (100,000,000)  
 100,000,000 100,000,000 100,000,000 100,000,000  
 100,000,000 100,000,000
1. 100,000,000 100,000,000 "10k" 100,000,000  
 100,000,000 100,000,000 "0k"  
 100,000,000 100,000,000 100,000,000 100,000,000  
 100,000,000 100,000,000 "10k"  
 100,000,000 100,000,000 100,000,000 100,000,000 (100,000,000)



## Things You Might Need to Know

h. h. . . . . , . . . . . a . . . . . h. h. a  
a h. . . . . , h. . . . . h a h . . . . . a . . . h  
h. . . . . h . . . . . a , h k h a h . . . . .  
. . . . . a h h . . . . . h . . . . . h A . . . . .  
. . . h 0 . . . . .  
h . . . . . a . . . . . a . . . . . 00 A . . .  
. . . h. . . . . h . . . . . h . . . . . a . . . a  
. . . h h . . . . . h . . . . . h A . . . . . 0  
a . . . . . h . . . . .  
h 700 . . . . . a . . . . . a . . . . .  
a . . . h k . . . . .  
. . . . . a . . . . . , h . . . h a . . . a  
. . . k . . . h a . . . h . . . . .  
h 700 . . . . . a . . . h . . . . . a h a  
. . . . . , a . . . / . . . . . h  
. . . . . k a h, . . . . . a . . .  
a a h a . . . . .  
a . . . . . h a . . . . . h  
. . . . . h . . . . .  
v a a a . . . a h . . . . . h a . . . . .  
. . . h . . . . . 0 ( . . . a ) h a h . . . . .  
. . . h . . . a k . . . . .  
. . . a . . . . . 700 . . . . .

# 742/762 SERIES ADVANCED PROGRAMMING



h 700  
h h h h k h h h h h  
h h h h k h h h  
h h h

Action	Key	Duration	Display
h h h h		h h	h h h h k
h h h	h	h h	h h h h h h
h h h h		h h	h h h h h
h h	h	h h	h h h h h h h h h h
h		h h	h h h h h
h h h h		h h	h h h h h h h
h h h	h	h h	h h h h h
h h h h	h	h h	1 h h h h

## 742/762 Level II Professional Programming

[illegible]

## Accessing History Values

h 7 // a a h a a h a h a h a h  
h h a a h h h h a h  
a h a a a h a h a  
h " " a a h a

## History Values

	Description	Range	Notes
0	$\frac{1}{2} \leq x \leq \frac{3}{4}$	$\frac{1}{2} \leq x \leq \frac{3}{4}$	
1	$\frac{1}{4} \leq x \leq \frac{3}{8}$	0	
	$\frac{1}{8} \leq x \leq \frac{1}{4}$	$\frac{1}{8} \leq x \leq \frac{1}{4}$	/
	$\frac{1}{16} \leq x \leq \frac{1}{8}$ / $\frac{3}{16} \leq x \leq \frac{1}{4}$	0, 1, 1, 0 / 0, 1, 10, 10	/
	$\frac{1}{32} \leq x \leq \frac{1}{16}$ / $\frac{3}{32} \leq x \leq \frac{1}{16}$	0, 1, 1, 0 / 0, 1, 10, 10	/
	$\frac{1}{64} \leq x \leq \frac{1}{32}$ 100	0, , 00 / ,	/
	$\frac{1}{64} \leq x \leq \frac{1}{32}$ 1,000,000	, $\times 10$ , $\times 10$	/
/	$\frac{1}{16} \leq x \leq \frac{1}{8}$ / $\frac{3}{16} \leq x \leq \frac{1}{8}$	0, 1, 1, 0 / 0, 1, 10, 10	/
	$\frac{1}{16} \leq x \leq \frac{1}{8}$ / $\frac{3}{16} \leq x \leq \frac{1}{8}$	0, 1, 1, 0 / 0, 1, 10, 10	/
	$\frac{1}{16} \leq x \leq \frac{1}{8}$ / $\frac{3}{16} \leq x \leq \frac{1}{8}$	0, 1, 1, 0 / 0, 1, 10, 10	/
10	$\frac{1}{16} \leq x \leq \frac{1}{8}$ / $\frac{3}{16} \leq x \leq \frac{1}{8}$	0, 1, 1, 0 / 0, 1, 10, 10	/
11	$\frac{1}{16} \leq x \leq \frac{1}{8}$ / $\frac{3}{16} \leq x \leq \frac{1}{8}$	0, 1, 1, 0 / 0, 1, 10, 10	/
1	$\frac{1}{16} \leq x \leq \frac{1}{8}$ / $\frac{3}{16} \leq x \leq \frac{1}{8}$	0, 1, 1, 0 / 0, 1, 10, 10	/
1	$\frac{1}{16} \leq x \leq \frac{1}{8}$ / $\frac{3}{16} \leq x \leq \frac{1}{8}$	0, 1, 1, 0 / 0, 1, 10, 10	/
1	$\frac{1}{16} \leq x \leq \frac{1}{8}$	0 -	/
1	$\frac{1}{16} \leq x \leq \frac{1}{8}$	0 - 00 1,000	/
1	$\frac{1}{16} \leq x \leq \frac{1}{8}$	$\frac{1}{16} \leq x \leq \frac{1}{8}$	/
1/	$\frac{1}{16} \leq x \leq \frac{1}{8}$	0 - ,1	
	$\frac{1}{16} \leq x \leq \frac{1}{8}$	0 - ,	

## Resetting the Control

[illegible]



**WARNING:**

Do not use the vehicle's horn or other sound-producing devices to warn of a vehicle's presence. The use of such devices is prohibited by law in many jurisdictions. The use of such devices may also be considered a nuisance. The use of such devices may also be considered a violation of local, state, or federal regulations. The use of such devices may also be considered a violation of local, state, or federal regulations.

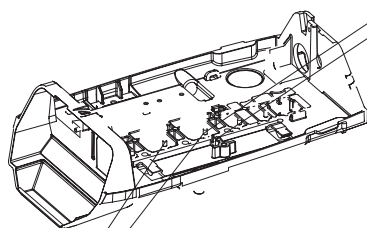
**All further advance programming or set-up instructions can be found in the Dealer Installation and Service Manual, P/N 1255652.**

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## ***PARTS AND ACCESSORIES***

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### **256 Valve Exploded View**



## 255 Valve Parts List

Part				Part			
Code	No.	Description	Qty.	Code	No.	Description	Qty.
1	1 0	h A , /	1	1	1000	h h -	1
	10 /	h A h	1	1/		h A h -	1
	1010	-	1		1000 0	./ (1. , )	
	1010	-	1		1000 10	./ (1./ , )	
	1 0	h , h , /00/ 0	1		1000 11	./ ( , )	
	1 1	h , , h	1		1000 1	./ 10 ( ./ , 10. )	
/	1 *	h , h , / h /00/ 0	1		100 1 0	./ 1 ( , 1./ )	
	1001 0	h A h	1		1000 1	./ 1 ( , 1/ )	
	10 0	-	1		1000 1	./ 1 ( , 0 )	
10	1001	1 /1 h ( h )	1	1 A	1000	h , 0. h	1
*	1000 0	h k - h h	1	1	1 10	h	
*	1 / 0	h 00/00	1		10 1	A. h k / - h h	1
11		h k h	1		10 1/	A. h k 1/ - h h	
	10 1 0	h h h k h		0	1 /	h , , h	1
	10 1 0	h h h k h		1	10 0 0	h ,	1
	10 1 0	h h h k h		*	10 0	A. h k A h	1
	10 1 0	h h h k / h			1	h	1
	10 1 0	h h h k h		*	1 1 /	h k	
	10 1 0/	h h h k h		*	1	h , 0.	
	100 0	h k h - /1 h		*	1 11	x h , 0.1 h	
1		h h	1	*	1 /	h , h	
	1	h /00- 0 h , ,		*	1 /	h , 0.1 h	
	1 1	h /00- 0 h , ,		*	1 /	h , h	
1	1 1	h / h A	1				
1	1000	h A / -	1				
1		h ( h )	1				
	10 / 0	h ( h ) - V					
	10 / 1	h ( h ) - h					
	10 /	h ( h ) - h					
	10 /	h ( h ) -					
	10 /	h ( h ) -					
	10 /	h ( h ) -					
	10 /	h ( h ) -					
	10 /	h ( h ) - k					
	10 /	h ( h ) - h					
	10 /	h ( h ) - h					

\* h

## 255 Valve Parts List (Continued)

Part				Part			
Code	No.	Description	Qty.	Code	No.	Description	Qty.
*							
		(					
10 0 //		, 1/		* 1001 0	/	A	1
10 0 /		1/		* 1001 /0	1/	A	1
10 0 1		/		* 1001 0		A	1
		/		* 1001 1	/	A	1
				* 1001 1	1/	A	1
10 0		1/		* 1001 1		A	1
10 0 /		1/		* 1001/	/	A	1
10 0 0		1/		* 1001 0	1/	A	1
10 0		1/		* 1001 0	/	A	1
				* 1001 0	1/	A	1
10 0		1/		* 1001 11	/	A	1
*	10 0		1	* 1001 10	1/	A	1
*		A		* 1001 1	1/	A	1
10 0		A	1				
10 1			1				
*							
10 0/		A	1				
10 0			1				

\* 1.





## Performa Parts List

Part				Part			
Code	No.	Description	Qty.	Code	No.	Description	Qty.
1	1	1	1	10	7	(1 - 1000) - 1000	1
	1	*	1			(1 - 1000)	1
	1	*	1	10	7	(1 - 1000) - 1000	1
						(1 & 1 - 1000)	1
	1	*	1	10	7	(1 - 1000) - 1000	1
				10		(1 - 1000) - 1000	1
			1	1000	1000	(1 - 1000) - 1000	1
	1	*	1	10	1	1000	1
				11	10	0 0	1
	1	7 0 *	1	*	10	0	1
				1	100	(1 - 1000) - 1000	1
	1	7 0 *	1	1	1010	(1 - 1000) - 1000	1
	1	7 0 *	1	1	1000	(1 - 1000) - 1000	1
		(1 - 1000)		1	10	1000	1
	1	7 0 *	1	*	10	11/	1
				1		1000	1
	1	7 0 *	1	1001	0	(1 - 1000) - 1000	1
		(1 - 1000)		1001	70	1 - 1000	1
		1000	1	1001	0	(1 - 1000) - 1000	1
1000	0	(1 - 1000)		1001	1	(1 - 1000) - 1000	1
1000	10	(1 - 1000)		1001	1	1 - 1000	1

\*  $t_{(1,10)} = 1.96$ ,  $p < 0.05$ .

Logix 700 Series Controllers Parts List

1 / 1

# TROUBLESHOOTING

## 700 Series Controller Troubleshooting

Problem	Possible Cause	Solution
1. No power to the controller	<ul style="list-style-type: none"> <li>Power supply is not connected to the controller.</li> <li>Power supply is not turned on.</li> <li>Power supply is not rated for the controller.</li> </ul>	<ul style="list-style-type: none"> <li>Check the power supply connection.</li> <li>Check the power supply status.</li> <li>Check the power supply rating.</li> </ul>
2. No power to the controller	<ul style="list-style-type: none"> <li>Power supply is not connected to the controller.</li> <li>Power supply is not turned on.</li> <li>Power supply is not rated for the controller.</li> </ul>	<ul style="list-style-type: none"> <li>Check the power supply connection.</li> <li>Check the power supply status.</li> <li>Check the power supply rating.</li> </ul>
3. No power to the controller	<ul style="list-style-type: none"> <li>Power supply is not connected to the controller.</li> <li>Power supply is not turned on.</li> <li>Power supply is not rated for the controller.</li> </ul>	<ul style="list-style-type: none"> <li>Check the power supply connection.</li> <li>Check the power supply status.</li> <li>Check the power supply rating.</li> </ul>
4. No power to the controller	<ul style="list-style-type: none"> <li>Power supply is not connected to the controller.</li> <li>Power supply is not turned on.</li> <li>Power supply is not rated for the controller.</li> </ul>	<ul style="list-style-type: none"> <li>Check the power supply connection.</li> <li>Check the power supply status.</li> <li>Check the power supply rating.</li> </ul>
5. No power to the controller	<ul style="list-style-type: none"> <li>Power supply is not connected to the controller.</li> <li>Power supply is not turned on.</li> <li>Power supply is not rated for the controller.</li> </ul>	<ul style="list-style-type: none"> <li>Check the power supply connection.</li> <li>Check the power supply status.</li> <li>Check the power supply rating.</li> </ul>
6. No power to the controller	<ul style="list-style-type: none"> <li>Power supply is not connected to the controller.</li> <li>Power supply is not turned on.</li> <li>Power supply is not rated for the controller.</li> </ul>	<ul style="list-style-type: none"> <li>Check the power supply connection.</li> <li>Check the power supply status.</li> <li>Check the power supply rating.</li> </ul>
7. No power to the controller	<ul style="list-style-type: none"> <li>Power supply is not connected to the controller.</li> <li>Power supply is not turned on.</li> <li>Power supply is not rated for the controller.</li> </ul>	<ul style="list-style-type: none"> <li>Check the power supply connection.</li> <li>Check the power supply status.</li> <li>Check the power supply rating.</li> </ul>

## System Troubleshooting

Problem	Possible Cause	Solution
1. The system does not start.	<ul style="list-style-type: none"> <li>The power supply is not connected.</li> <li>The power switch is not turned on.</li> <li>The power cord is not plugged in.</li> <li>The power switch is not turned on.</li> </ul>	<ul style="list-style-type: none"> <li>Check the power supply.</li> <li>Check the power switch.</li> <li>Check the power cord.</li> <li>Check the power switch.</li> </ul>
The system does not start.	<ul style="list-style-type: none"> <li>The power supply is not connected.</li> <li>The power switch is not turned on.</li> <li>The power cord is not plugged in.</li> <li>The power switch is not turned on.</li> </ul>	<ul style="list-style-type: none"> <li>Check the power supply.</li> <li>Check the power switch.</li> <li>Check the power cord.</li> <li>Check the power switch.</li> </ul>
The system does not start.	<ul style="list-style-type: none"> <li>The power supply is not connected.</li> <li>The power switch is not turned on.</li> <li>The power cord is not plugged in.</li> <li>The power switch is not turned on.</li> </ul>	<ul style="list-style-type: none"> <li>Check the power supply.</li> <li>Check the power switch.</li> <li>Check the power cord.</li> <li>Check the power switch.</li> </ul>
The system does not start.	<ul style="list-style-type: none"> <li>The power supply is not connected.</li> <li>The power switch is not turned on.</li> <li>The power cord is not plugged in.</li> <li>The power switch is not turned on.</li> </ul>	<ul style="list-style-type: none"> <li>Check the power supply.</li> <li>Check the power switch.</li> <li>Check the power cord.</li> <li>Check the power switch.</li> </ul>
The system does not start.	<ul style="list-style-type: none"> <li>The power supply is not connected.</li> <li>The power switch is not turned on.</li> <li>The power cord is not plugged in.</li> <li>The power switch is not turned on.</li> </ul>	<ul style="list-style-type: none"> <li>Check the power supply.</li> <li>Check the power switch.</li> <li>Check the power cord.</li> <li>Check the power switch.</li> </ul>
The system does not start.	<ul style="list-style-type: none"> <li>The power supply is not connected.</li> <li>The power switch is not turned on.</li> <li>The power cord is not plugged in.</li> <li>The power switch is not turned on.</li> </ul>	<ul style="list-style-type: none"> <li>Check the power supply.</li> <li>Check the power switch.</li> <li>Check the power cord.</li> <li>Check the power switch.</li> </ul>
The system does not start.	<ul style="list-style-type: none"> <li>The power supply is not connected.</li> <li>The power switch is not turned on.</li> <li>The power cord is not plugged in.</li> <li>The power switch is not turned on.</li> </ul>	<ul style="list-style-type: none"> <li>Check the power supply.</li> <li>Check the power switch.</li> <li>Check the power cord.</li> <li>Check the power switch.</li> </ul>
The system does not start.	<ul style="list-style-type: none"> <li>The power supply is not connected.</li> <li>The power switch is not turned on.</li> <li>The power cord is not plugged in.</li> <li>The power switch is not turned on.</li> </ul>	<ul style="list-style-type: none"> <li>Check the power supply.</li> <li>Check the power switch.</li> <li>Check the power cord.</li> <li>Check the power switch.</li> </ul>





